

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for molding an upper and a lower mold having no flask and that match each other, comprising:

(1) a putting and holding process to put a match plate having a pattern in between an upper and a lower flask having intakes for foundry sand and being horizontal and to hold the match plate,

(2) a defining process to define an upper and a lower molding space by inserting an upper and a lower squeeze means into openings of a pair of the upper and the lower flask having no match plate,

(3) a rotating and moving process to rotate the pair of the upper and the lower flask and the match plate together with the upper and the lower squeeze means and cylinders to move the upper and the lower squeeze means so that they are perpendicularly positioned, and to move them so that the intakes of the upper and the lower flask move upward,

(4) a filling process to fill the upper and the lower molding space with the foundry sand through the intakes of the upper and the lower flask,

(5) a squeezing process to squeeze the foundry sand ~~[[of]]~~in the upper and the lower molding space by causing the upper and the lower squeeze means to further approach each other,

(6) a rotating process to rotate the pair of the upper and the lower flask and the match plate together with the upper and the lower squeeze means and cylinders to

move the upper and the lower squeeze means so that they are again horizontally positioned, ~~and~~

(7) a removing process to remove the match plate disposed between the upper and the lower flask after separating the upper and the lower flask containing, respectively, an upper and a lower mold from the match plate,

(8) a matching process to match the upper and the lower flask containing the ~~mold, after the core is installed between the upper and the lower mold, if necessary to~~ each other, and

(9) a removing process to remove the molds from ~~[[a]]~~ the pair of the upper and the lower flask that are caused to match each other.

2. (Currently Amended) ~~[[A]]~~ The method of claim 1, wherein, ~~[[ (2) ]]~~ the defining process (2) ~~to define the upper and the lower molding space by inserting the upper and the lower squeeze means in openings of the pair of the upper and the lower flask having no match plate, and [[ (3) ]]~~ the rotating and moving process (3) ~~to rotate the pair of the upper and the lower flask and the match plate so that they are perpendicularly positioned, and to move them so that the intakes of the upper and the lower flask move upward, are simultaneously carried out~~ simultaneously.

3. (Currently Amended) ~~[[A]]~~ The method of claim 1, wherein the squeezing process (5) ~~to squeeze the foundry sand of the upper and the lower molding space by causing the upper and the lower squeeze means to further approach each other, and the rotating process (6) to rotate the pair of the upper and the lower flask and the match plate so that they are horizontally positioned, are simultaneously carried out~~ simultaneously.

4. (Currently Amended) ~~[[A]]~~The method of claim 1, wherein an upper and lower squeeze plate are provided as the upper and the lower squeeze means.
5. (Currently Amended) ~~[[A]]~~The method of claim 1, wherein upper and lower segmented-squeeze feet are provided as the upper and the lower squeeze means.
6. (Currently Amended) ~~[[A]]~~The method of claim 4, wherein after the filling process to fill the upper and the lower molding space with the foundry sand through the intakes of the upper and the lower flask is completed, ~~[[it]]~~the method further ~~comprises~~includes:
- a) a process to move further apart the upper squeeze plate from the lower squeeze plate to a predetermined distance, and
  - b) a further filling process to further fill the upper and the lower molding space with ~~[[the ]]~~additional foundry sand through the intakes of the upper and the lower flask.
7. (Currently Amended) ~~[[A]]~~The method of claim 6, wherein, ~~[[a) ]]~~the process to move further apart the upper squeeze plate from the lower squeeze plate to a predetermined distance, and ~~[[b) ]]~~the further filling process to further fill the upper and the lower molding space with the additional foundry sand through the intakes of the upper and the lower flask are ~~simultaneously~~carried out simultaneously.
8. (Currently Amended) ~~[[A]]~~The method of claim 5, wherein~~[[ (2) ]]~~ the defining process (2) ~~to define an upper and a lower molding space by inserting the upper and the lower squeeze means into openings of a pair of the upper and the lower flask having no match plate~~ further includes a setting process to set the distance between the pattern of the match plate and each of a plurality of the upper and lower

segmented-squeeze feet so that each ratio of the distance after squeezing and that before squeezing becomes equalthe same.

9. (Currently Amended) ~~[[A]]~~The method of claim 5, wherein~~[[ (2)]]~~ the defining process ~~(2) to define an upper and a lower molding space by inserting the upper and the lower squeeze means into openings of a pair of the upper and the lower flask having no match plate~~ further includes a forming process to form the molding space defined by the pattern of the match plate and each of a plurality of the upper and lower segmented-squeeze feet so that the foundry sand can easily flow in the molding space.

10. (Cancelled).

11. (Currently Amended) ~~[[A]]~~The method of claim 5, wherein~~[[ (4)]]~~ the filling process ~~(4) to fill the upper and the lower molding space with the foundry sand through the intakes of the upper and the lower flask and~~ ~~[[ (5)]]~~ the squeezing process ~~(5) to squeeze the foundry sand of the upper and the lower molding space by causing the upper and the lower squeeze means to further approach each other~~ further include:

a) a first filling process to fill the upper and the lower molding space defined by the upper and the lower flask, the upper and the lower squeeze means, and the match plate, which are perpendicular, with the foundry sand through the intakes of the upper and the lower flask.

b) a first squeezing process to squeeze the foundry sand ~~[[of]]~~in the upper and the lower molding space by causing a plurality of the upper and lower segmented-squeeze feet of the upper and the lower squeeze means to further approach each other,

c) a second filling process to fill the upper and the lower molding space with the additional foundry sand through the intakes of the upper and lower flask after ~~[[the]]~~a retracting process is completed to retract the upper and lower segmented-squeeze feet, and

d) a second squeezing process to squeeze the foundry sand ~~[[of]]~~in the upper and the lower molding space by simultaneously causing the upper and lower segmented-squeeze feet, whose surfaces are arranged in a plane, to further approach each other.

12-15. (Cancelled).

16. (New) An apparatus for molding an upper and a lower mold that match each other and that has ~~[[not]]~~no flask, comprising:

(1) a unit of an upper and a lower flask each having intakes disposed at their side walls for foundry sand, which flasks are connected to each other by connecting rods so that they can move close to and away from each other, wherein the connecting rods are disposed through protuberances that are disposed at ~~[[the]]~~an outer side of both the upper and the lower flask,

(2) a match plate having a pattern disposed between the upper and the lower flask so that the match plate can be inserted in and taken out by a conveying apparatus,

(3) a squeezing mechanism to squeeze the foundry sand, including:  
a rotating frame, which can rotate clockwise or counterclockwise in the perpendicular plane by a supporting shaft disposed at a base,  
a pair of guide rods extending upward and downward and disposed at the rotating frame with a set interval,

an upper and a lower lifting and lowering frame slidably disposed at the upper and lower portions of the pair of the guide rods,

a cylinder arranged upward and a cylinder arranged downward for moving the upper and the lower lifting and lowering frame so that the upper and the lower lifting and lowering frame can ~~access~~approach and separate from each other, which cylinders are disposed at the rotating frame, and

an upper and a lower pair of clamping mechanisms disposed at the upper and the lower lifting and lowering frame for clamping and releasing the upper and the lower portion of the connecting rods,

wherein the upper and the lower lifting and lowering frame have a plurality of cylinders to move an upper and a lower squeeze ~~plate~~means forward or backward, which ~~plates~~means are disposed in the upper and the lower flask,

(4) a driving mechanism to rotate the squeezing mechanism clockwise or counterclockwise, and

(5) an aeration mechanism to fill the foundry sand into the upper and the lower flask, ~~which are~~when both are perpendicular, by means of the driving mechanism, through the intake, while the lower pair of clamping mechanisms clamps the lower portion of the connecting rods.

17. (New) The apparatus of claim 16, wherein an upper and a lower squeeze plate are provided as the upper and the lower squeeze means.

18. (New) The apparatus of claim 16, wherein upper and lower segmented squeeze feet are provided as the upper and the lower squeeze means.

19. (New) The apparatus of any one of claims 16, 17 and 18, wherein the upper and lower pair of clamping mechanisms to clamp the connecting rods for holding the unit of the upper and the lower flask include a pair of motors, and a pair of clamp means fixed to shafts of the motors, wherein the pair of the clamp means can engage grooves disposed at the upper portion of the connecting rods, and wherein the pair of the clamp means can swing by means of the rotation of the motors.